BY ORDER OF THE COMMANDER
AIR EDUCATION AND TRAINING COMMAND

AETC INSTRUCTION 21-106

5 FEBRUARY 2000

Maintenance

CORROSION CONTROL

COMPLIANCE WITH THIS PUBLICATION IS MANDATORY

OPR: HQ AETC/LGMTS
(SMSgt G. Carmichael)
Supersedes AETCI 21-106, 31 March 1997

Certified by: HQ AETC/LGM
(Col M. Cardinal)
Pages: 31
Distribution: F

This instruction implements AFPD 21-1, *Managing Aerospace Equipment Maintenance*. It establishes Air Education and Training Command (AETC) corrosion control guidance and procedures and assigns responsibilities for implementing and maintaining an effective corrosion control program for aircraft, aerospace ground equipment (AGE), electronic equipment, support vehicles, communications, electronics, meteorological (CEM) equipment, and all other end items relative to the functions of AETC. It is applicable to all operational and ground trainer aircraft and associated support equipment assigned to AETC. All AETC units, tenant and detached, are required to comply with this instruction, Air Force directives, and technical orders pertaining to corrosion control. Contractor operations are not expected to fully comply with the paragraphs of this instruction concerning organizational structure and responsibilities. Instead, they will comply with the provisions of the contract statement of work (SOW). It is the contracting office's responsibility to ensure the intent of this publication is incorporated into such work statements upon revision or renewal. Contractors will, however, comply with all other requirements of this publication concerning inspection, corrosion treatment, painting, marking, and documentation procedures on assigned aerospace equipment. Maintain and dispose of records created as a result of processes prescribed in this publication in accordance with AFMAN 37-139, *Records Disposition Schedule*.

SUMMARY OF REVISIONS

This revision makes polyurethane protective tapes (PPT) mandatory when authorized as an option in the applicable aircraft -23 series technical orders (paragraph **2.3.5.**). Aircraft undergoing plastic media blasting (PMB) are now limited to one PMB cycle every 8 years (paragraph **2.3.6.**). Tasteful nicknames are now authorized (paragraph **2.11.**). It also includes a new gray paint scheme and markings for T-38 aircraft as well as markings for the C-17 (**Attachment 2**). A bar (|) in the left margin indicates revision from the previous edition.

Chapter 1

CORROSION CONTROL

1.1. General. Command, base, and unit corrosion control programs will be oriented toward preventing corrosion through the timely inspection and proper treatment of aerospace vehicles and support equipment to include proper maintenance of protective finishes and ensuring equipment cleanliness. Deviation from this instruction is not authorized without HQ AETC/LGM approval.

1.2. Responsibilities. HQ AETC/LGM is responsible for corrosion prevention and control programs throughout the command. In accordance with AFI 21-105, *Aerospace Equipment Structural Maintenance*, a corrosion superintendent will be appointed within HQ AETC/LGMT to monitor the command's programs and serve as a point of contact for corrosion control activities.

1.2.1. Logistics Group and Operations Group Commander Responsibilities. He or she will:

1.2.1.1. Ensure all maintenance personnel are aware of corrosion, its causes, and its effects.

1.2.1.2. Review item or system manager-devised equipment or weapon system corrosion inspection workcards to ensure local corrosion inspection requirements are met.

1.2.1.3. Devise local corrosion inspection workcards if the item or system manager has not provided specific requirements.

1.2.1.4. Establish local checklists for aircraft wash inspections in accordance with T.O. 00-5-1, *Air Force Technical Order System,* if Air Force technical data is not available. All local workcards shall be coordinated through HQ AETC/LGMTS.

1.2.1.5. Ensure corrosion familiarization courses conducted by the unit are reviewed at least annually by the training flight and the aircraft structural maintenance element chief (or civilian equivalent).

1.2.1.6. Ensure an effective occupational safety, health, and fire prevention program is established and implemented according to AFI 91-302, *Air Force Occupational and Environmental Safety, Fire Protection, and Health (AFOSH) Standards.*

1.2.1.7. Monitor facilities to ensure they are adequate to meet mission requirements and to ensure proper levels of equipment, manpower, and material funding are available to support a sound corrosion control program.

1.2.1.8. Ensure an aircraft wash rack supervisor is appointed for each shift where washes are being performed.

1.2.2. Aircraft Structural Maintenance Element Chief (or civilian equivalent) or Specialist Flight Chief (for those units having 2A7X3s assigned to the flying squadrons) Responsibilities. This individual will:

1.2.2.1. Ensure aircraft and support equipment corrosion inspections are performed in accordance with -6 or local workcards.

1.2.2.2. Ensure only authorized chemicals, compounds, and organic coatings are used, and material safety data sheets (MSDS) are available in each workplace for referencing those chemicals and coatings.

1.2.2.3. Ensure only authorized corrosion removal methods are used.

1.2.2.4. Ensure aircraft structural maintenance personnel (Air Force specialty code [AFSC] 2A7X3 or civilian equivalent) receive pre-placement, special purpose, periodic, and termination physicals as determined by local medical group aeromedical services.

1.2.2.5. Ensure aircraft structural maintenance personnel are fit tested and receive and use proper respiratory and personal protective and safety equipment as determined by the local medical group aeromedical services.

1.2.2.6. Keep abreast of, and ensure strict compliance with, the latest federal, state, and local environmental laws pertaining to hazardous material handling and waste disposal.

1.2.2.7. Provide occupational safety, fire prevention, and health training to aircraft structural maintenance personnel as required by AFI 91-302.

1.2.2.8. Ensure equipment required to manage an effective corrosion prevention and control program is available and properly maintained.

1.2.2.9. Ensure routine maintenance and cleaning of corrosion control facilities is performed to ensure an effective program and to minimize safety and health hazards.

1.2.2.10. Accomplish product quality deficiency reports (PQDR) according to T.O. 00-35D-54, *USAF Deficiency Reporting and Investigating System*, when necessary.

1.2.2.11. Report all program deficiencies through proper channels with info copies to HQ AETC/LGMTS.

1.2.2.12. Participate in corrosion prevention advisory boards (CPAB) that are aircraft specific.

1.2.2.13. Participate in other corrosion-related programs and meetings.

1.2.2.14. Provide corrosion control support and technical expertise to base and tenant organizations whose requirements exceed their capabilities. If a contractor is involved and the situation is not covered by a host-tenant support agreement or a memorandum of agreement, forward all requests to the contracting officer for review.

1.2.3. Aircraft and Equipment Cleaning Responsibilities. The cleaning responsibilities are as follows:

1.2.3.1. Establish and enforce procedures and controls to ensure exterior and interior (as applicable) cleaning is accomplished at frequencies adequate to maintain an effective program for aircraft and support equipment. Minimum aircraft wash cycles are established in T.O. 1-1-691, *Aircraft Weapons Systems—Cleaning and Corrosion Control*, and will be strictly enforced. These minimums may be accelerated at the owning unit's discretion.

1.2.3.2. The owning organization will wash and clean aircraft and support equipment. Flight line personnel may be cross-utilized trained (CUT) to perform aircraft afterwash cleanliness inspections. Units electing to CUT flight line personnel to perform afterwash inspections must have these personnel trained by a qualified 2A773 aircraft structural maintenance craftsman (or civilian equivalent) and the training documented in the individual's training records. Ownership and management of the aircraft wash facility may be delegated to either the logistics group or the operations group at the wing commander's discretion. It is highly recommended this responsibility be

delegated to the organization performing and documenting the washes whenever possible. This organization is responsible for ensuring:

1.2.3.2.1. The required number and size of serviceable fire extinguishers are readily available.

1.2.3.2.2. Grounding points have been inspected and approved in accordance with T.O. 00-25-172, *Ground Servicing of Aircraft and Static Grounding/Bonding.*

1.2.3.2.3. Water hoses, pumps, motors, explosion- and vapor-proof electrical fixtures, and high-pressure equipment are properly monitored, maintained, and serviceable.

1.2.3.2.4. The need for mechanical ventilation and the adequacy of ventilation systems are evaluated periodically by bioenvironmental engineering services in accordance with AFOSH Standards 48-137, *Respiratory Protection Program*, and 161-17, *Standardized Occupational Health Program.*

1.2.3.2.5. Adequate quantities of personnel protective clothing and equipment are available and in serviceable condition in accordance with AFOSH Standard 91-31, *Personal Protective Equipment.*

1.2.3.2.6. Maintenance stands are routinely inspected and documented for serviceability and are properly and safely used.

1.2.3.2.7. Waste treatment and drainage systems are inspected daily and serviced at proper intervals to preclude overflow of polluting agents.

1.2.3.2.8. Sufficient covered, nonflammable waste receptacles are available and properly marked.

1.2.3.2.9. Personnel using these facilities are familiar with instructions contained in applicable paragraphs of T.O. 1-1-691, concerning safety and precautionary measures, treatment, and disposal of wash rack waste.

1.2.3.2.10. No other maintenance is accomplished on the aircraft or equipment during corrosion prevention treatment when hazardous and toxic materials are in use and require the use of respiratory protective equipment.

1.2.3.3. Due to safety considerations, at least two personnel will be assigned to the aircraft wash crew. The aircraft wash crew will include the dedicated crew chief (does not apply to contractor operations) or the assistant. Additional personnel will be assigned as required.

1.2.4. Owning Unit Aircraft Wash Responsibilities. The owning unit will:

1.2.4.1. Monitor, schedule, and record aircraft washes.

1.2.4.2. Enter wash requirements on the aircraft forms.

1.2.4.3. Ensure aircraft are properly prepared for wash according to T.O. 1-1-691, aircraft-specific T.O.s, and other applicable directives.

1.2.4.4. Ensure aircraft wash crew personnel are task trained and qualified.

1.2.4.5. Ensure unprotected lubrication points are lubricated before the next flight or as specified in applicable directives, and aircraft forms are documented to reflect time and date of completion.

1.2.5. Aircraft Wash Rack Supervisor Responsibilities. This individual must hold at least a 5-skill level and be in an aircraft maintenance AFSC. He or she must be trained on proper wash procedures by a qualified 2A7X3 structural maintenance craftsman (or civilian equivalent) and have this training signed off in his or her training records. Responsibilities are to ensure:

1.2.5.1. Proper safety and personal protective equipment, cleaning materials, and supplies are available and used by all wash crew personnel.

1.2.5.2. Only authorized cleaning compounds listed in T.O. 1-1-691 and or system-specific technical orders and approved for use in the qualified products listing are used for washing aircraft and support equipment.

1.2.5.3. Approved safety and health procedures are followed.

1.2.5.4. All wash crew personnel are briefed on proper use of safety and personal protective equipment and wash rack procedures before starting any washes.

1.2.5.5. Fall protection is installed, serviceable, and used where required (reference AFOSH Standard 91-31, and AFOSH Standard 91-66, *General Industrial Operations*).

1.2.5.6. The wash rack is kept clean and properly maintained and that foreign-object walks are performed at the beginning and end of each scheduled work shift.

1.2.5.7. The wash is completed and will sign the appropriate aircraft or equipment record to that effect. The supervisor will also enter the lubrication requirement in the records.

1.2.6. Wing Plans and Scheduling Function Responsibilities. This function will monitor and schedule aircraft washes.

1.3. Aircraft Corrosion Prevention:

1.3.1. Qualified 2A7X3 aircraft structural maintenance (or civilian equivalent with a corrosion control job description) personnel will perform aircraft corrosion inspection -6 workcards. All maintenance personnel, regardless of AFSC, will examine all parts removed and inspect accessible areas for corrosion. When corrosion discrepancies are discovered that are beyond the using organization's capability to evaluate or repair, consult an aircraft structural maintenance specialist. Enter all discrepancies noted during these inspections in the aircraft forms for corrective action. Avionics maintenance personnel are responsible for inspecting pins and sockets of disconnected electrical connectors, avionics line replaceable units (LRU), inside equipment drawers, etc., for corrosion. The crew chief will replace any hardware, such as nuts, bolts, pins, etc., if corrosion is found on them.

1.3.2. Maintenance personnel who remove and install aircraft panels and doors must ensure seals are serviceable and sealant is applied to panels and fasteners as specified in applicable aircraft technical orders.

1.3.3. The aircraft structural maintenance element chief (or civilian equivalent) will serve as the technical expert to local commanders and the AETC corrosion superintendent.

1.4. Aerospace Ground Equipment (AGE):

1.4.1. Technical orders 1-1-691, 1-1-8, *Application and Removal of Organic Coatings, Aerospace and Non-Aerospace Equipment*, 35-1-3, *Corrosion Prevention, Painting and Marking of USAF Support Equipment (SE),* and applicable equipment T.O.s contain guidance for an effective AGE and

alternate mission equipment (AME) corrosion prevention and control program. Each owning work center supervisor is responsible for ensuring an effective program is established and enforced for assigned equipment according to these directives.

1.4.2. Powered and nonpowered AGE will be cleaned during each periodic inspection or as otherwise determined by the AGE flight chief and or local requirements.

1.4.3. To the maximum extent possible, the owning work center will perform corrosion prevention and treatment. Corrosion repair and paint application will only be performed in approved facilities by qualified technicians.

1.4.4. All maintenance, servicing, and inspection personnel will be familiar with proper corrosion prevention and control. The training management flight, in conjunction with the aircraft structural maintenance element chief (or civilian equivalent), will serve as the focal point for corrosion orientation training.

1.5. Facilities. To conduct an adequate corrosion control and prevention program, each unit with permanently assigned aircraft should have, as a minimum, the following facilities:

1.5.1. A wash rack containing some form of hazardous run-off containment capable of washing aircraft on a year-round basis. This requirement can be satisfied with any one of the following:

1.5.1.1. A specially designed corrosion control facility completely enclosed and heated with environmentally controlled ventilation and waste disposal systems equipped with utilities necessary for accomplishing all facets of aircraft corrosion control.

1.5.1.2. An enclosed or covered wash rack connected to a sanitary sewer system and a wastewater treatment system (such as an oil and water separator) only if required by the wastewater treatment authority.

1.5.2. An open wash rack with hazardous waste containment for use on an interim basis where weather permits.

1.5.3. A corrosion control shop meeting the requirements outlined in AFI 32-1024, *Standard Facility Requirements*, for support equipment (SE) and aircraft-related parts. This capability can be incorporated in the aircraft corrosion control facility if space permits.

1.5.4. A facility for touchup painting of assigned aircraft on a year-round basis approved in accordance with AFOSH Standards 48-8, *Controlling Exposures to Hazardous Materials,* 48-137, 91-17, *Interior Spray Finishing,* 91-25, *Confined Spaces,* 91-31, 91-32, *Emergency Shower and Eyewash Unit,* 91-43, *Flammable and Combustible Liquids,* 91-56, *Fire Protection and Prevention,* 91-68, *Chemical Safety,* 91-119, *Process Safety Management (PSM) of Highly Hazardous Chemicals,* AFIs 91-301, *Air Force Occupational and Environmental Safety, Fire Protection, and Health (AFOSH) Programs,* 91-302, AFPD 91-3, *Occupational Safety and Health,* and base aeromedical services.

1.6. Documentation. Report corrosion deficiencies through automated maintenance data collection (MDC) systems in accordance with 00-20 series technical orders. ***NOTE:*** Accurately documenting maintenance actions in support of the corrosion control program is essential to support future manning, equipment requirements, training, and parts and material procurement requirements.

1.7. Training:

1.7.1. All maintenance personnel who work on aircraft, aircraft components, and aerospace ground and support equipment, regardless of AFSC (excluding corrosion work center assigned personnel), will receive corrosion prevention and control training. Newly assigned personnel will receive initial corrosion prevention and control training during the maintenance orientation program. Each unit will develop and implement a corrosion prevention and control training program. Training curricula will include, but not be limited to:

1.7.1.1. Corrosion identification procedures and techniques.

1.7.1.2. Familiarization with aircraft and equipment corrosion prone areas.

1.7.1.3. Reporting and documentation procedures for corrosion.

1.7.1.4. Removal procedures and treatment of minor corrosion.

1.7.1.5. Proper use of cleaning compounds.

1.7.2. Tailor corrosion courses to meet local needs. Courses will be assigned course codes and documented in appropriate automated products. Personnel must receive this training annually. In addition, the training flight will review the courses with the aircraft structural maintenance element chief (or civilian equivalent) at least annually to ensure adequacy and currency.

1.8. Hazard Reporting. Safety hazards identified during structural maintenance operations, that could be detrimental to flight safety or cause injury or death to personnel must be reported in accordance with AFI 91-204, *Safety Investigations and Reports*, and AFI 91-301. This includes any unsafe condition that could lead to a mishap or that may be classified as a high accident potential mishap. The local safety office will determine if the condition must be reported and will provide investigative and reporting assistance.

Chapter 2

PAINTING AND MARKING OF AEROSPACE VEHICLES

2.1. General. This chapter implements the guidance outlined in AFI 21-105. It provides guidance for applying and maintaining aircraft topcoats and applying command approved, non-USAF standard aircraft markings as authorized in T.O. 1-1-4, *Exterior Finishes, Insignia and Markings, Applicable to USAF Aircraft*, and applicable aircraft-specific technical orders, to operational and ground trainer aircraft assigned to AETC. It is not applicable to static display aircraft.

2.2. Responsibilities. Wing commanders, group commanders, and aircraft structural maintenance element chiefs are responsible for complying with the provisions of this chapter. Only aircraft markings specifically authorized by T.O. 1-1-4, applicable aircraft-specific technical orders, and this instruction will be applied to aircraft. HQ AETC/LGMTS is the point of contact for aircraft painting and markings as specified in this instruction. HQ ACC/DOT is the point of contact for all aircraft unit designators. Process waivers to this instruction according to paragraph **2.24.**

2.3. Appearance Standards:

2.3.1. All aircraft markings and basic paint schemes will be maintained intact, legible, distinct in color, and present a professional appearance. Standardization of paint schemes and markings (by mission design series [MDS]) is of primary concern.

2.3.2. Units will evaluate (score) the condition of aircraft topcoats twice annually to determine soundness for corrosion protection and appearance standards.

2.3.3. T-1, T-3, T-37, T-38, F-15, F-16, and helicopter units should plan to scuff sand and topcoat aircraft at about the 36-month point as a general rule. Based on historical lessons learned, this is the average point that fighter and trainer aircraft require repainting to maintain corrosion protection and appearance standards. However, this is not a hard-and-fast rule and should not be used as the sole driver for developing aircraft paint plans. Rather, aircraft paint plans should be driven by a fully developed program using the semiannual scoring requirements outlined in paragraph **2.4.** tempered with common sense and sound corrosion control practices. If an aircraft is determined to have a sound coating system and meets acceptable appearance standards, it should not be repainted solely because 36 months have expired since the last painting. Alternatively, if an aircraft coating system fails prior to reaching 36 months, it must be repainted as necessary to maintain corrosion protection and appearance standards.

2.3.4. Each unit will establish and manage an adequate aircraft touchup program with the aim of maintaining aircraft topcoats intact and in serviceable condition. Use touchup painting to the maximum extent possible in order to maintain proper corrosion protection and appearance standards as opposed to full aircraft oversprays. Use touchup paint to replace peeled or damaged paint accomplishing complete areas to prevent a spotted effect whenever possible. Large aircraft such as C-5, C-17, C-130, C-135, C-141, and T-43 should rely on touchup painting between scheduled periodic depot maintenance (PDM) paint cycles. Touchup painting will only be accomplished using authorized coatings identified in T.O. 1-1-8 or weapon system specific -23 series technical orders. Under no circumstances will spray paint in aerosol cans be used to topcoat aircraft or support equipment.

2.3.5. Polyurethane protective tapes (PPT) are mandatory for all AETC aircraft when authorized as an option in the applicable aircraft -23 series technical orders.

2.3.6. Aircraft undergoing plastic media blasting (PMB) are limited to one PMB cycle every 8 years, plus or minus 6 months. This schedule shall be strictly enforced. Any complete stripping outside of these parameters must be approved by HQ AETC/LGMTS.

2.3.7. The responsibility for determining acceptable appearance standards rests with individual wing commanders ensuring the guidance set forth in AFI 21-105, T.O. 1-1-4, and this instruction is not violated.

2.4. Aircraft Paint Scoring Procedures:

2.4.1. Score and rank order aircraft using a locally developed paint scoring form or automated program semiannually. Use these score sheets (or automated products) to develop a sensible and methodic approach for inputting aircraft into corrosion maintenance. As a minimum, document a complete description of what defects exist, such as peeling, flaking, oxidation, discoloration, and staining of the paint. The unit corrosion facility will keep these products on file for no less than 24 months.

2.4.2. The corrosion control work center will document on the aircraft's AFTO Form 95, **Significant Historical Data**, in detail what areas of the aircraft were painted and why. This includes each time a major paint touchup (painting of more than 40 percent of an aircraft), complete scuff sand and overcoat or overspray, or complete stripping and repainting of an aircraft is accomplished.

2.5. Marking Application Methods. The following are approved methods for applying aircraft markings to all AETC aircraft:

2.5.1. Silk Screen Printing. Do not use this method on aircraft surfaces that are contoured or have protruding screws, rivets, or bolts that will result in illegible or unprofessional-looking markings. When used, procure silk screen printing kits using local purchase procedures with organizational and maintenance (O&M) funds. Vendors can be identified by local contracting offices.

2.5.2. Decals. Units are responsible for procuring their own organizational decals.

2.5.3. Stenciling. Markings may be applied using stencils. Refer to T.O. 1-1-8 to determine the compatibility of stenciling paints and paint finishes. All colors must conform to applicable technical data.

2.5.4. Vinyl. Markings may be applied using vinyl decals generated on computerized stencil machines instead of stenciling with paint. However, these vinyl markings may tend to peel when applied to porous paints such as camouflage or on supersonic aircraft. Ensure proper adhesion of these materials. Also ensure the vinyl colors conform to those prescribed in applicable technical data.

2.6. Command Insignia. Applying command insignia to aircraft is mandatory. Fighter and trainer aircraft will apply the full color insignias while helicopters and cargo aircraft will apply subdued insignias unless otherwise authorized. Specific application for each MDS is located at **Attachment 2**. (This paragraph is not applicable to special operations aircraft.)

2.7. Organizational Insignia. Applying organizational insignias is optional, but will be standardized throughout the wing. If used, apply organizational insignias to both sides of the aircraft. If squadron insignias are not used, wing insignias may be applied to both sides of the aircraft. When used, apply squadron insignias to the left side of the aircraft with the wing insignia on the right side. Units that do not have organizational insignias may apply the next higher organizational insignia. Specific application for each MDS is located at **Attachment 2**.

2.8. Tail Numbers. It is mandatory to apply aircraft tail numbers. The tail numbers will be located below the unit designator on the vertical stabilizer and or tailboom pylon. Specific placement for each MDS is located at **Attachment 2**.

2.9. Unit Designator. It is mandatory to apply unit designators for all AETC aircraft unless otherwise authorized. HQ ACC/DOT is the office of primary responsibility for the assignment of unit designators. Submit all requests for approval of unit designators through HQ AETC/LGMTS to HQ ACC/DOT. You must comply with color restrictions prescribed in T.O. 1-1-4, section 5, or the applicable aircraft specific T.O. Specific placement for each MDS is located at **Attachment 2**. (This paragraph is not applicable to special operations aircraft.)

2.10. Tail Flashes (Tail Stripe). Tail flashes are used to identify a specific wing, squadron, or flight. Designs are determined by each wing. The wing commander may choose a single wing tail stripe design or distinctive tail stripes for each squadron or flight. Apply the tail stripe to the vertical stabilizer and or tailboom pylon. It must be in the form of a straight stripe. The height will not exceed 15 inches for trainer and fighter aircraft and helicopters or 24 inches for cargo aircraft. In addition, the tail stripe must not contain more than four distinct colors. Specific placement for each MDS is located at **Attachment 2**.

2.11. Aircrew and Crew Chief Names. A unit option is to apply aircrew, crew chief, and assistant crew chief names to aircraft. Tactical call signs are prohibited. Nicknames are permitted. Operations group commanders (OG/CC) will approve or disapprove tasteful names, ensuring no discredit is brought upon AETC, the Air Force, or the Department of Defense. Acceptable examples include Captain William A. "Smitty" Smith and Major Wayne "Jonesy" Jones. Lettering style is a unit option, but will not exceed 3 inches in height. All aircraft in the wing will be standardized by MDS with the exception of designated commander's aircraft, which may have different lettering not exceeding 3 inches in height. A background block for the names may be used to encompass the names. The block shall be in contrasting colors to the section where applied and may be preceded by an eagle head, falcon head, tiger head, etc.

2.12. Commander's Aircraft Flagships. Commanders' aircraft referred to in this instruction are those designated as numbered air force, wing, operations group, and flying squadron commanders' aircraft. Flagships are a unit option. Each base is authorized to designate only one aircraft as a flagship per authorized commander. Bases and units with more than one MDS assigned will select only one aircraft for the wing and operations group flagships. Each flying squadron commander may select one aircraft for designation as a flagship. Apply flagship markings as follows:

2.12.1. Numbered Air Force Commander's Flagship. A numbered air force commander's aircraft is authorized at the base where the commander is assigned. The aircraft tail number may be replaced by the organization alphanumeric designator (for example, 19 AF), but must remain the same size as the original tail number. The tail number must be moved to another location on the aircraft in a smaller size on or as close to the vertical stabilizer as possible. Organizations may apply unit insignias

to the aircraft. When used, place the numbered Air Force insignia on the right side of the aircraft with the wing insignia on the left. A collage of assigned wing insignias may be applied to the left side of the aircraft in place of a single wing emblem.

2.12.2. Wing Commander's Flagship. The aircraft tail number may be replaced by the organization alphanumeric designator (such as, 12 FTW), but must remain the same size as the original tail number. The tail number must be moved to another location on the aircraft in a smaller size on or as close to the vertical stabilizer as possible. Organizations may apply unit insignias to the aircraft. When used, place wing insignias on the right side of the aircraft with the owning squadron's insignia on the left side. A collage of assigned flying squadron insignias may be applied to the left side of the aircraft in place of a single squadron emblem.

2.12.3. Operations Group Commander's Flagship. The aircraft tail number may be replaced by the group alphanumeric designator (for example, 325 OG), but must remain the same size as the original tail number. The tail number must be moved to another location on the aircraft in a smaller size on or as close to the vertical stabilizer as possible. Organizations may apply unit insignias to the aircraft. When used, place wing insignias on the right side of the aircraft with the owning squadron's insignia on the left side. A collage of assigned flying squadron insignias may be applied to the left forward area of the fuselage instead of a single squadron emblem.

2.12.4. Flying Squadron Commander's Flagship. The aircraft tail number may be replaced by the squadron alphanumeric designator (for example, 1 FS), but must remain the same size as the original tail number. The tail number must be moved to another location on the aircraft in a smaller size on or as close to the vertical stabilizer as possible. Organizations may apply unit insignias to the aircraft. When used, place wing insignias on the right side of the aircraft with the owning squadron's insignia on the left side. A collage of assigned flying squadron insignias is not authorized on these aircraft.

2.12.5. Shadowing. Shadowing of unit designators and tail numbers or organizational alphanumeric designators is authorized for all aircraft designated as flagships at the wing commander's discretion. Apply shadowing in a conservative color that complements the overall paint scheme of the aircraft (normally black, white, or gray).

2.12.6. Tail Flash (Tail Stripe). As a unit option, a collage-type tail stripe representing each flying squadron or the wing colors may be designed and applied to wing and operations group commanders' flagships. Squadron flagship tail flashes will match those of all other aircraft assigned to the squadron. In all cases, the tail flash will meet the specifications outlined in paragraph **2.10.** of this instruction.

2.13. Nose Art. Each base is authorized one aircraft to receive nose art. The wing commander will designate this aircraft. All nose art must be in good taste, be representative of the local community, and be gender neutral. Submit all nose art requests through the wing commander to HQ AETC/LG for approval by the AETC commander. Consider copyright infringement when selecting nose art. It is highly recommended that nose art be applied to one of the flagships authorized in paragraph **2.12.**

2.14. Aircraft Travel Pods. Paint travel pods the same color as the associated aircraft. For ease of cleaning and appearances, units with aircraft painted in camouflage paint schemes may apply gloss paint to travel pods, but it must closely match the color and paint design of the aircraft. Wing and squadron insignias may be applied at the unit's option. Units with multicolor aircraft will select one of the primary colors of the aircraft for the travel pod. Travel pods designated for commander flagships may be any color,

but must complement the overall paint scheme of the aircraft and present a professional appearance. These travel pods may contain the name, position, and appropriate rank insignia of the individual. Lettering may be of any color and style, but will not exceed 4 inches in height. Forward photographs of the design to HQ AETC/LGMTS for review and file.

2.15. Paint Identification Block. The paint identification block is mandatory for all aircraft assigned to AETC. Apply it as specified in T.O. 1-1-4. In addition, the last strip date will be included. The block may be of a unique design such as an eagle head, state outline, etc. However, it must not exceed 6 inches by 6 inches in size and must match the color of other markings on the aircraft. The wing commander is the approval authority for all unique designs. Forward photographs of the design to HQ AETC/LGMTS for review and file.

2.16. Aircraft Nose Numbers. Aircraft nose numbers are authorized as a unit option. Numbers will not exceed four digits and will be in block or helvetica style letters. They will be applied to the nose of the aircraft. Specific location for each MDS is located at **Attachment 2**.

2.17. Bird of Prey Silhouette. Bird of prey silhouettes are authorized on F-15 and F-16 aircraft as a unit option, standardized within a wing by MDS. Submit photographs of aircraft bearing this marking to HQ AETC/LGMTS for review and file. The following guidelines apply:

2.17.1. F-15 Aircraft. Apply the silhouette to the inside of the vertical stabilizers. The size will not exceed 36 inches in height and must be applied in a contrasting shade of gray to the area being applied. Specific placement is at **Attachment 2**.

2.17.2. F-16 Aircraft. Place the silhouette on both sides of the aircraft aft of the canopy on the forward area of the backbone in a contrasting shade of gray to the area being applied. The silhouette will not exceed 18 inches in height. Specific placement is at **Attachment 2**.

2.18. Gun Ports. Gun ports may be painted flat black as a unit option. MDS standardization in a wing is required. Gun ports may not be polished on any aircraft due to corrosion considerations.

2.19. Aerial Victory Markings. Aircraft that have flown combat missions and are credited with bona fide hits or kills may have a uniquely designed marking. This marking will be conservative in nature and must not exceed 4 inches by 4 inches. If multiple hits or kills are credited, a numerical indicator may be added to the marking. Units requesting to place these markings on aircraft must submit photographs to HQ AETC/LGMTS for review and approval.

2.20. Special Award Markings. Units having local competitions for best flying aircraft, best looking aircraft, etc., may apply a uniquely designed marking to the aircraft to denote winners. Criteria for application will be the same as in paragraph **2.19.**

2.21. Competition Aircraft. Units participating in competitions such as William Tell, Gunsmoke, etc., will follow the guidelines established in the competition rules for aircraft appearance. Competitions should be considered "come as you are." Strongly consider those aircraft with the best appearance when selecting aircraft to participate in these competitions as opposed to accomplishing crash programs of complete oversprays. Excessive painting is detrimental to an effective corrosion program and must be avoided. The wing and operations group commanders are responsible for ensuring the intent of this

instruction is not violated. Waivers for special paint schemes or markings will not be granted for these aircraft.

2.22. Helicopter Rotor Markings. All helicopter rotor markings are mandatory and will be applied according to T.O. 1-1-4 and applicable weapons systems technical data.

2.23. Aircraft Transfer. Aircraft retiring to the Aircraft Maintenance and Regeneration Center (AMARC) will not have markings removed.

2.23.1. The following markings must be removed before formal transfer of aircraft to other units or major commands (MAJCOM):

2.23.1.1. Organizational insignia.

2.23.1.2. Unit designator.

2.23.1.3. Tail flashes.

2.23.1.4. Aircrew and crew chief names (including any blocks housing the names).

2.23.1.5. Unit-unique markings.

2.23.1.6. Nose art.

2.23.2. Remove these markings on aircraft for transfer to another unit or MAJCOM, so that the aircraft meets appearance standards outlined in paragraph **2.3.** Paint areas where markings are removed so they present a professional appearance and do not result in spottiness. The receiving unit should then only have to apply their own unit markings.

2.24. Waivers. Wing commanders will submit requests for waivers to marking policies established in this instruction in message format to HQ AETC/LG for review and approval by AETC/CC. Waivers violating published technical data will not be accepted. Process changes to technical orders according to T.O. 00-5-1. Waiver requests must include the following:

2.24.1. A clear statement of present procedure and the marking at issue.

2.24.2. A clear statement of proposed changes.

2.24.3. Justification.

2.24.4. Two 8- by 10-inch color photographs--one of the aircraft with the present marking configuration and one of an aircraft with the requested change. ***NOTE:*** This can be accomplished by temporarily affixing the marking to the aircraft using double-back tape or by some similar method that does not require the marking to be applied permanently.

2.25. Aircraft Photo Requirements. Each unit assigned must submit 8- by 10-inch full-length photograph of all flagship aircraft to HQ AETC/LGMTS. When design changes to these paint schemes are submitted and subsequently approved by AETC/CC, new photos must be submitted for file.

Chapter 3

EQUIPMENT TONE DOWN

3.1. Aerospace Ground Equipment (AGE). All government owned or furnished powered and nonpowered AGE will be toned down according to the following guidelines:

3.1.1. All safety, danger, warning, caution, and informational markings will be applied according to T.O. 35-1-3.

3.1.2. Individualized AGE team identification markings will not exceed a 2- by 6-inch area below field numbers if space permits.

3.1.3. Interior areas of AGE exposed during operation will be toned down.

3.1.4. AGE arriving on base and requiring tone down will be painted within 60 days of receipt.

3.1.5. Items not removed from shops (such as, test equipment, test benches, and mockups) need not be toned down.

3.2. Vehicles. Paint and mark registered and nonregistered vehicles according to T.O. 36-1-191, *Technical and Managerial Reference for Motor Vehicle Maintenance*. Tone down vehicles coded for mobility. Painting and marking of vehicles is the responsibility of the vehicle maintenance activity.

3.2.1. Vehicles painted according to this instruction will not be repainted to color or gloss characteristics due to rotation or redistribution actions.

3.2.2. Mark vehicles operating primarily on the flight line with 2-inch reflectorized tape to indicate height, width, and length of vehicles. Strips of tape should be approximately (but not exceed) 6 inches in length. Exceptions to this requirement are listed in T.O. 36-1-191.

3.3. Test Equipment and Consolidated Tool Kits (CTK). To prevent obscuring instructions and possible damage to components, only exteriors of test equipment will be toned down. Test equipment and CTKs used outside the shop environment will be toned down, such as gray, olive drab, brown, black, or forest green. A camouflage pattern incorporating these colors may be used. ***NOTE:*** Does not apply to contractor-owned equipment, or equipment that is not subject to mobility.

3.4. Tactical Air Control System (TACS) Equipment:

3.4.1. Shelters, Vehicles, and Support Equipment. TACS shelters, vehicles, and support equipment will be pattern painted in a three-color camouflage scheme according to T.O. 36-1-161, *Color, Marking, and Camouflage Painting of Military Vehicles, Construction Equipment, and Materials Handling Equipment*, and equipment-specific T.O.s. The paint will have a chemical agent resistant coating when required by T.O. 36-1-191. Reflective tape, signs, and decals will not be applied. Mobilizers can be toned down in the solid complementary colors of desert sand or forest green.

3.4.2. Aerospace Ground Equipment. Polyurethane paint system Mil-C-85285, color number 24052, is the approved paint system for AGE. Polyurethane paint will not be applied over lacquer or enamel coatings. Equipment will be completely stripped and properly prepared according to T.O. 1-1-8 before applying polyurethane coatings to this equipment. Minimum reflectorized requirements are in T.O. 35-1-3. Black or white reflectorized tape, NSN 9330-00-948-3262, will be used.

3.4.3. Vehicles. Vehicles painted for the purpose of tone down will be painted, marked, and highlighted according to T.O. 36-1-191. Markings required by T.O. 36-1-191, except those identifying areas of safety, will be black, color number 37038. Areas requiring red markings will be applied using color number 31136.

Chapter 4

COMMUNICATIONS, ELECTRONICS, AND METEOROLOGICAL (CEM) ACTIVITIES AND EQUIPMENT

4.1. General. This chapter provides CEM units with procedural guidance for establishing an effective corrosion prevention and control program (CPCP) for all CEM equipment.

4.2. Responsibilities:

4.2.1. Each unit will establish a local CPCP that will stress prevention and control of corrosion through equipment cleanliness, timely detection, and maintenance of protective finishes. A quality control checklist will be developed to provide an easier guideline for inspections. Units may use the base CPCP applicable to the equipment being maintained when practical. If the base has a CPCP control board, the unit CPCP functional manager will request membership and will attend those meetings that have communications and electronic equipment related topics.

4.2.2. Work center supervisors will ensure prevention or treatment actions are taken and documented on all equipment and systems under their control. Personnel assigned to the maintenance production work center are responsible for inspecting assigned vehicles (such as, trucks, vans, mobilizers, trenchers, tractors, back hoes, cable plows, and trailers) for corrosion. Report discrepancies to the unit vehicle control office on AF Form 1800, **Operator's Inspection Guide and Trouble Report.** ***NOTE:*** The base civil engineer (BCE) must be contacted before any maintenance is performed on conduits used with communication and electronic equipment circuits classified as real property (RP) and real property installed equipment (RPIE).

4.3. Unit CPCP Functional Manager Responsibilities. The functional manager will:

4.3.1. Assist in procuring needed materials for prevention and treatment of corrosion within each work center. A locally fabricated corrosion control kit may be used. Kit contents can be jointly determined by the unit CPCP functional manager and work center supervisors.

4.3.2. Ensure all maintenance personnel receive training on CPCP. The training will be based on local environment and particular equipment requirements.

4.3.3. Work closely with BCE for support of the unit CPCP. ***NOTE:*** Support coverage should consider RPIE, vehicles, and shelter equipment (including van interior and exteriors, undercarriages and mobilizers, etc.) and equipment in storage awaiting project installation.

4.3.4. Obtain corrosion control and treatment beyond the unit's capability from BCE, vehicle maintenance shop, respective air logistics center (ALC), or Air Force Materiel Command (AFMC).

4.3.5. Ensure each work center adequately adheres to and participates in the unit CPCP. Periodically, but no less than annually, evaluate each work center CPCP.

4.3.6. Ensure coatings are applied to all ground connections that are not environmentally controlled according to T.O. 1-1-689, *Organization/Unit and Intermediate Maintenance--Avionic Cleaning and Corrosion Prevention/Control*, T.O. 31-10-24, *Installation Practices--Communications Systems Grounding, Bonding, and Shielding*, and Military Standard (MIL STD) 188-124B, *Grounding, Bonding, and Shielding for Common Long Haul/Tactical Communications Systems Including Ground*

Based Communications-Electronics Facilities and Equipment. Ground terminals of shelters and vans will not be coated.

4.3.7. Ensure adequate quantities of reference publications are available for the unit's needs.

4.4. Training Programs:

4.4.1. Initial subject knowledge will cover background knowledge of the causes, removal, control, and prevention of corrosion. This training is required upon initial assignment to the unit. Annual refresher training is also required.

4.4.2. Follow-on training is conducted when new techniques are developed to identify, remove, or treat corrosion encountered by the unit. The unit CPCP functional manager, maintenance support personnel, and supervisors must be alert for applicable follow on training subjects and crossfeeds which may appear in WR-ALCRP 400-1, *Corrosion Summary,* technical orders, or other publications procurable through the unit publications personnel.

DOUGLAS C. BECKWITH, Colonel, USAF
Deputy Director of Logistics

Attachment 1

GLOSSARY OF REFERENCES AND SUPPORTING INFORMATION

References

MIL STD 188-124B, *Grounding, Bonding, and Shielding for Common Long Haul/Tactical Communications Systems Including Ground Based Communications-Electronics Facilities and Equipment*

AFPD 21-1, *Managing Aerospace Equipment Maintenance*

AFPD 91-3, *Occupational Safety and Health*

AFI 21-105, *Aerospace Equipment Structural Maintenance*

AFI 32-1024, *Standard Facility Requirements*

AFMAN 37-139, *Records Disposition Schedule*

AFI 91-204, *Safety Investigations and Reports*

AFI 91-301, *Air Force Occupational and Environmental Safety, Fire Protection, and Health (AFOSH) Program*

AFI 91-302, *Air Force Occupational and Environmental Safety, Fire Protection, and Health (AFOSH) Standards*

AFOSH Std 48-8, *Controlling Exposures to Hazardous Materials*

AFOSH Std 48-137, *Respiratory Protection Program*

AFOSH Std 91-17, *Interior Spray Finishing*

AFOSH Std 91-25, *Confined Spaces*

AFOSH Std 91-31, *Personal Protective Equipment*

AFOSH Std 91-32, *Emergency Shower and Eyewash Units*

AFOSH Std 91-43, *Flammable and Combustible Liquids*

AFOSH Std 91-56, *Fire Protection and Prevention*

AFOSH Std 91-66, *General Industrial Operations*

AFOSH Std 91-68, *Chemical Safety*

AFOSH Std 91-119, *Process Safety Management (PSM) of Highly Hazardous Chemicals*

AFOSH Std 161-17, *Standardized Occupational Health Program*

T.O. 00-5-1, *Air Force Technical Order System*

T.O. 00-25-172, *Ground Servicing of Aircraft and Static Grounding/Bonding*

T.O. 00-35D-54, *USAF Deficiency Reporting and Investigating System*

T.O. 1-1-4, *Exterior Finishes, Insignia and Markings, Applicable to USAF Aircraft*

T.O. 1-1-8, *Application of Organic Coatings, Aerospace and Non-Aerospace Equipment*

T.O. 1-1-689, *Organization/Unit and Intermediate Maintenance—Avionic Cleaning and Corrosion Prevention/Control*

T.O. 1-1-691, *Aircraft Weapons Systems--Cleaning and Corrosion Control*

T.O. 1F-16CG-2-00GV-00-1, *General Vehicle Description—Organizational Maintenance (Lockheed Martin)*

T.O. 31-10-24, *Installation Practices -- Communications Systems Grounding, Bonding, and Shielding*

T.O. 35-1-3, *Corrosion Prevention, Painting and Marking of USAF Support Equipment (SE)*

T.O. 36-1-161, *Color, Marking and Camouflage Painting of Military Vehicles, Construction Equipment and Materials Handling Equipment*

T.O. 36-1-191, *Technical and Managerial Reference for Motor Vehicle Maintenance*

Abbreviations and Acronyms

AETC—Air Educational and Training Command

AF—Air Force

AFI—Air Force Instruction

AFMC—Air Force Materiel Command

AFOSH—Air Force Occupational Safety and Health

AFSC—Air Force specialty code

AGE—Aerospace ground equipment

ALC—Air logistics center

AMARC—Aircraft Maintenance and Regeneration Center

AME—Alternate mission equipment

BCE—Base civil engineer

CEM—Communications, electronics, meteorological

CPAB—Corrosion prevention advisory board

CPCP—Corrosion prevention and control program

CTK—Consolidated tool kit

CUT—Cross-utilized trained

FS—Fighter squadron

LRU—Line replaceable unit

MAJCOM—Major command

MDC—Maintenance data collection

MDS—Mission design series

MIL STD—Military Standard

MSDS—Material safety data sheets

O&M—Operations and maintenance

PDM—Periodic depot maintenance

PMB—Plastic media blasting

PPT—Polyurethane protective tape

RP—Real property

RPIE—Real property installed equipment

SE—Support equipment

SOW—Statement of work

TACS—Tactical Air Control System

T.O.—Technical order

Attachment 2

AIRCRAFT MARKING LOCATIONS

C-5A GALAXY:

Command Insignia. 34-inch subdued. Applied to both sides of the forward fuselage and to the left side of the aft fuselage. Proper placement for the forward fuselage area is the top forward corner of the patch 12 inches aft of, and centered vertically on, the crew entry door. Placement is the same for both sides. On the aft fuselage area, proper placement is the top forward corner on the insignia 12 inches aft of, and centered vertically on, the #6 service door.

Wing Designator. 10-inch single-stroke military block lettering. Applied to both sides of the nose 6" below and centered on the nose numbers.

Unit Insignia. 34-inch subdued. Applied to both sides of the forward fuselage area. Proper placement is the top aft corner of the insignia 12 inches forward of, and centered vertically on, the crew entry door.

Aircraft Tail Numbers. 18-inch single-stroke, military block lettering. Applied to both sides of the vertical stabilizer. Proper placement is the top of the numbers 12 inches below and centered on the bottom edge of the tail flash. Apply aircraft tail numbers to both sides of the nose of the aircraft in 18 inch military block lettering.

Tail Flash (Stripe). Consists of a 2- inch top and bottom flat black border with an 18-inch colored band in the middle. It is applied to both sides of the vertical stabilizer. Proper placement is the top edge of the tail flash 12 inches below the letters "AETC." It extends from the leading edge of the vertical stabilizer to the trailing edge of the upper rudder.

Unit Designator. The two-letter unit designator is not applied to this aircraft.

"AETC" Lettering. The letters AETC are applied in 18 inch single-stroke, military block lettering to both sides of the vertical stabilizer and on the aircraft visor. Proper placement on the vertical stabilizer is 12 inches below and centered on the US Flag. Proper placement on the visor is at the bottom of the visor centered on the antenna.

US Flag. 24- by 48-inch full color. Applied to both sides of the vertical stabilizer. Proper placement is centered on WL 626. It is applied so the trailing edge of the flag flows toward the trailing edge of the rudder, regardless of which side it is applied on.

Aircrew and Crew Chief Names. Applied inside a 6- by 30-inch block to the left side of the forward fuselage. Proper placement is 6 inches below and centered on the command insignia.

C-17 GLOBEMASTER:

Command Insignia. 34-inch subdued. Applied to both sides of the forward fuselage. Proper placement is 12" down from L25 with the forward most edge of the decal positioned 36" aft of the crew entry door.

Wing Designator. 10-inch single-stroke military block lettering. Applied to both sides of the nose 6" below and centered on the nose numbers.

Unit Insignia. 34-inch subdued. Applied to both sides of the forward fuselage. Proper placement is 12" aft of and level with the command insignia.

Aircraft Tail Numbers. 18-inch single-stroke, military block lettering. Applied to both sides of the vertical stabilizer. Proper placement is the top of the numbers 12 inches below and centered on the bottom

edge of the tail flash. Apply aircraft tail numbers to both sides of the nose of the aircraft in 18 inch military block lettering.

Tail Flash (Stripe). Consists of a 2-inch top and bottom border with an 18-inch colored band in the middle. It is applied to both sides of the vertical stabilizer. Proper placement is the top edge of the tail flash 12 inches below the letters "AETC." It extends from the leading edge of the vertical stabilizer to the trailing edge of the upper rudder.

Unit Designator. The two-letter unit designator is not applied to this aircraft.

"AETC" Lettering. The letters AETC are applied in 18 inch single-stroke, military block lettering to both sides of the vertical stabilizer. Proper placement on the vertical stabilizer is 12 inches below and centered on the front edge of the US Flag.

US Flag. 24- by 48-inch full color matte finish. Applied to both sides of the vertical stabilizer. Proper placement is centered on WL 426. It is applied so the trailing edge of the flag flows toward the trailing edge of the rudder, regardless of which side it is applied.

Aircrew and Crew Chief Names. 2-inch single-stroke, military block lettering. Applied inside a 6- by 30-inch block to the left side of the forward fuselage. Proper placement is 6 inches below and centered on the command insignia.

C-130 HERCULES:

Command Insignia. Command insignias are not applied to this aircraft.

Unit Insignia. 24-inch insignias are applied to both sides of the forward fuselage 7 inches above and centered on first window aft of crew entry door. Unit insignias are not applied to Special Operations aircraft.

Nose Numbers. 6-inch single-stroke, military block lettering, last year of manufacture year plus last 3 digits of serial number placed 3 inches behind with bottom of number level with bottom of aft kick window. Nose numbers are not applied to Special Operations aircraft.

Aircraft Tail Numbers. 6-inch single stroke, military block lettering applied to both sides of the vertical stabilizer. Proper placement is the bottom edge of the numbers 60 inches above the top of horizontal stabilizer with the trailing edge of the aft-most digit 26 inches forward of the leading edge of the rudder.

Tail Flash (Stripe). Tail flashes are not applied to this aircraft. (Special Operations)

Unit Designator. The two-letter unit designator is not applied to this aircraft. (Special Operations)

Aircrew and Crew Chief Names. Applied in a box 12 inches high by 28 inches wide to the left forward area of the fuselage. Proper placement is the top of the box even with and 3 inches forward of the top of the crew entry door.

USAF. 6-inch single-stroke, military block lettering applied to both sides of the vertical stabilizer. Proper placement is the bottom of the letters 12 inches above the top edge of the aircraft tail numbers with the leading edge of the U in USAF aligned with leading edge of the first digit in the serial number.

KC-135 STRATOTANKER:

Command Insignia. 34-inch subdued. Applied to both sides of the forward fuselage. Proper placement is 16 inches aft of the crew entry door with the top of the insignia 6 inches below and centered on the USAF marking.

Unit Insignia. 34-inch subdued. Applied to the right side of the forward fuselage. Proper placement is at FS 259.5, 6 inches below the USAF marking.

Aircraft Tail Numbers. 10-inch single-stroke, military block lettering. Applied to both sides of the vertical stabilizer. Proper placement is the top of the numbers 10 inches below and centered on the letters "AETC." Apply aircraft tail numbers to both sides of the nose of the aircraft in 6 inch military block lettering.

Tail Flash (Stripe). Consists of a 2-inch top and bottom flat black border with a 10-inch color band in the center. Proper placement is the bottom edge of the tail flash resting on WL 532.5. It extends from the leading edge of the vertical stabilizer to the trailing edge of the rudder.

Unit Designator. The two-letter unit designator is not applied to this aircraft.

"AETC" Lettering. 10-inch single-stroke, military block lettering. Applied to both sides of the vertical stabilizer. Proper placement is the top of the letters 10 inches below and centered on the US Flag.

US Flag. 21- by 40-inch full color. Applied to both sides of the vertical stabilizer. Proper placement is centered on WL 447. It is applied so the trailing edge of the flag flows toward to trailing edge of the rudder, regardless of which side it is applied.

Aircrew and Crew Chief Names. Applied inside a 6- by 30-inch box on the left side of the forward fuselage. Proper placement is the top edge of the box 6 inches below and centered on the command insignia.

C-141 STARLIFTER:

Command Insignia. 34-inch subdued. Applied to both sides of the forward fuselage. Proper placement is the top forward corner of the insignia 12 inches aft of, and even with the top of, the crew entry door.

Wing Designator. 6-inch single-stroke military block lettering. Applied to both sides of the nose 6" below and centered on the nose numbers.

Unit Insignia. 34-inch subdued. Applied to both sides of the forward fuselage area. Proper placement is the top aft corner of the insignia 12 inches forward of, and even with the top of, the crew entry door.

Aircraft Tail Numbers. 12-inch single-stroke, military block lettering. Applied to both sides of the vertical stabilizer. Proper placement is centered 12 inches below the bottom of the tail flash. Apply aircraft tail numbers to both sides of the nose of the aircraft in 6 inch military block lettering.

Wing Designator. 6-inch single-stroke military block lettering. Applied to both sides of the nose 6" below and centered on the nose numbers.

Tail Flash (Stripe). Consists of a 2-inch top and bottom flat black border with a 12-inch color band in the center. Applied to both sides of the vertical stabilizer. Proper placement is the top edge of the tail flash 12 inches below the letters "AETC." It extends from the leading edge of the vertical stabilizer to the trailing edge of the rudder.

Unit Designator. The two-letter unit designator is not applied to this aircraft.

"AETC" Lettering. 12-inch single-stroke, military block lettering. Applied to both sides of the vertical stabilizer. Proper placement is the top of the letters 12 inches below and centered on the US Flag.

US Flag. 24- by 48-inch full color. Applied to both sides of the vertical stabilizer. Proper placement is centered on WL 426. It is applied so the trailing edge of the flag flows toward the trailing edge of the rudder, regardless of which side it is applied.

Aircrew and Crew Chief Names. Applied inside a 6- by 30-inch box to the left side of the forward fuselage. Proper placement is 6 inches below and centered on the command insignia.

F-15 EAGLE:

Command Insignia. 18-inch full color. Applied to the outboard side of each vertical stabilizer. Proper placement is centered on each vertical stabilizer with the bottom center point of the insignia 18 inches above the top of the rudder.

Unit Insignia. 18-inch full color. The wing insignia is applied to the right side of the fuselage centered on FS 458.80 with the top of the insignia 6 inches below WL 116.0. The squadron insignia is applied to the same area on the left side of the aircraft.

Aircraft Tail Numbers. 15-inch single-stroke, military block lettering. Applied to the outboard side of each vertical stabilizer. Proper placement is the bottom of the numbers resting on an imaginary line drawn even with the bottom of the rudder, with the inside stroke of the last digit 8 1/4 inches from the bottom forward tip of the rudder.

Tail Flash (Stripe). 6-inches high. The tail flash wraps around continually on both sides of each vertical stabilizer. Proper placement is the top of the tail flash grounded against the bottom of the vertical stabilizer tip support (bullet).

Unit Designator. Applied in 24 inch single-stroke, military block lettering. Applied to the outboard side of each vertical stabilizer. Proper placement is centered on the stabilizer with the top of the letters even with the top of the rudder.

Nose Numbers. 4-inch single-stroke, military block lettering, four-digit aircraft serial number. Units may apply these numbers to both sides of the forward fuselage section, 2 inches below and centered on the EWWS antennas or centered vertically on the left and right side of the nose gear door.

Bird of Prey Silhouette. 14-inch high. Applied to the inboard side of each vertical stabilizer. Proper placement is centered on the vertical stabilizer with the uppermost portion of the silhouette 12 1/2 inches below the bottom of the tail flash. It is painted in opposing gray to the area which it is applied.

Aircrew and Crew Chief Names. The crew chief names are applied in a 10- by 36-inch solid block on the right side of the fuselage. Proper placement is the top of the name block 23 inches above the top hinge of door 6R with the forward edge of the block 6 inches aft of door 3R. It is painted in opposing gray to the area which it is applied. The pilot name is applied in a 5- by 36-inch solid block to the right side of the fuselage in opposing gray to the area applied. Proper placement is the same as the crew chief block.

F-16 FIGHTING FALCON:

Command Insignia. 18-inch full color. Applied to both sides of the vertical stabilizer. Proper placement is centered between the leading edge of the stabilizer and the trailing edge of the rudder. The top of the patch will be even with the top of panels 4495 and 4496 respectively.

Unit Insignia. 10-inch full color. Applied to both sides of the forward fuselage area. Proper placement is the wing patch applied to panel 3302 with the squadron patch applied to panel 3301. They will be applied 2 inches from the top and 2 inches from the front of the panels.

Aircraft Tail Numbers. 12-inch single-stroke, military block lettering applied according to T.O. 1F-16CG-2-00GV-00-1, *General Vehicle Description--Organizational Maintenance (Lockheed Martin)*. On those aircraft designated as commanders' aircraft, the unit alphanumeric designator will be applied in

place of the aircraft tail numbers. In these cases, the tail numbers will be applied in 5-inch single-stroke, military block lettering on the lower forward portion of the vertical stabilizer centered on panels 4421 and 4422 respectively with the bottom of the numbers 2 inches above the fuselage.

Unit Designator. Applied in 24-inch single-stroke, military block lettering. Applied to both sides of the vertical stabilizer according to T.O. 1F-16CG-2-00GV-00-1.

Tail Flash (Stripe). 6-inch high. Applied to both sides of the vertical stabilizer. Proper placement is the top of the tail flash even with the top of the rudder.

Nose Numbers. 4-inch single-stroke, military block lettering, four-digit aircraft serial number. Proper placement is centered 2 inches below the threat warning (teardrop) antennas. Painted in opposing gray to the area they are applied.

Bird of Prey Silhouette. 18-inch high. Applied to both sides of the forward fuselage backbone. Proper placement is the beak and bottom feathers lined up with panels 2406 and 2409 just aft of 2401 and 2402 respectively. Painted in the opposing gray to the area they are applied.

Aircrew and Crew Chief Names. The pilot name is centered on the left canopy rail with the crew chief name centered on the right canopy rail.

H-1 HELICOPTER (UH-1N HUEY/IROQUOIS):

Command Insignia. 10-inch subdued. Located on both sides of the vertical tailboom assembly. Proper placement is the bottom of the insignia 2 inches above the top edge of the tail stripe, centered on the vertical tailboom.

Unit Insignia. 10-inch subdued. The wing insignia is applied to the right cargo door with the squadron insignia applied to the left cargo door. Proper placement is centered on the door with the top of the insignia 5 inches below the bottom of the window.

Aircraft Tail Numbers. 6-inch single-stroke, military block lettering. Applied to both sides of the vertical tailboom assembly. Proper placement is the first digit of the serial number located at FS 455 with the bottom of the numbers 2 inches above lower fin fairing.

Tail Flash (Stripe). 10-inch high. Applied to both sides of the vertical tailboom assembly. Proper location is the bottom edge of the tail flash 22 inches above the top of the tail skid fairing.

Unit Designator. The 2-inch unit designator is not applied to this aircraft.

USAF. 6-inch single stroke, military block lettering. Applied to both sides of the vertical tailboom assembly. Proper placement is the U in USAF located at FS 455 with the bottom edge of the letters 2 inches above the top of the serial numbers.

Aircraft Nose Numbers. 4-inch single-stroke, military block lettering. Proper placement is centered on the nose of the aircraft 2 inches below the loop antenna.

Aircrew and Crew Chief Names. The aircrew and crew chief names are placed inside a box 22 1/2 inches by 5 1/2 inches in size. Proper location is the pilot name centered horizontally and vertically on the left crew door with the crew chief name placed similarly on the right.

H-53 HELICOPTER (MH-53J PAVE LOW/TH-53A):

Command Insignia. Command insignias are not applied to this aircraft.

Unit Insignia. Unit insignias are not applied to this aircraft.

Aircraft Tail Numbers. 8-inch single-stroke, military block lettering. Applied to both sides of the aft fuselage. Proper placement is at FS 728.5.

Tail Flash (Stripe). Tail flashes are not applied to this aircraft.

Unit Designator. The two-letter unit designator is not applied to this aircraft.

Aircrew and Crew Chief Names. The dedicated crew chief and the assistant's name are applied to the right forward nose area. Proper placement is centered on the right electronics bay access panel.

USAF. 8-inch single-stroke, military block lettering. Applied to both sides of the aft fuselage. Proper placement is at FS 728.5 with the bottom of the letters 2 inches above the aircraft serial numbers.

Nose Numbers. 4-inch single-stroke, military block lettering. Proper placement is centered on the battery compartment access door.

H-60 HELICOPTER (HH-60G PAVE HAWK):

Command Insignia. 10-inch subdued. Applied to both sides of the vertical tailboom assembly. Proper placement is 2 inches above the tail stripe, centered on the vertical tailboom assembly.

Unit Insignia. 10-inch subdued. The wing insignia is centered on the right cargo door 5 inches below the window. The squadron insignia is located similarly on the left cargo door.

Aircraft Tail Numbers. 6-inch single-stroke, military block lettering. Applied to both sides of the vertical tailboom assembly. Proper placement is the forward most digit located at FS 680 with the bottom of the numbers resting on WL 255.

Tail Flash (Stripe). 10-inch high. Located on both sides of the vertical tailboom assembly. Proper placement is the bottom edge of the tail stripe 2 inches above the "USAF."

Unit Designator. The two-letter unit designator is not applied to this aircraft.

Aircrew and Crew Chief Names. The aircrew and crew chief names are placed inside a box 22 1/2 inches by 5 1/2 inches. Proper placement is the pilot name centered on the right crew door with the crew chief name placed similarly on the left.

USAF. 6-inch single-stroke, military block lettering. Applied to both sides of the vertical tailboom assembly. Proper placement is the U in USAF located at FS 690 with the bottom of the letters 2 inches above the aircraft serial numbers.

Aircraft Nose Numbers. 4-inch single-stroke, military block lettering. Proper placement is 12 inches below and centered on intake screen.

T-1A JAYHAWK:

Command Insignia. 10-inch full color. Applied to both sides of the vertical stabilizer. Proper placement is centered on the stabilizer 4 1/4 inches below the bottom edge of the tail flash.

Unit Insignia. Unit insignias are not authorized on T-1 aircraft.

Tail Flash (Stripe). 6-inch high. Applied to both sides of the vertical stabilizer. Proper placement is the bottom edge of the tail flash even with the top of the rudder. The tail flash extends from the leading edge of the vertical stabilizer to the trailing edge of the rudder.

Unit Designator. 15-inch single-stroke, military block lettering. Applied to both sides of the vertical stabilizer. Proper placement is the top of the letters 19 inches below the bottom edge of the tail flash, with the aft-most portion of the last letter 4 inches forward of the vertical stabilizer and rudder split line.

Aircrew and Crew Chief Names. Applied to the forward section of both sides of the fuselage. Proper placement is the pilot name on the left side of the fuselage centered vertically on the white band between the antiglare shield and the blue stripe, and centered horizontally over the AIR in US AIR FORCE. The crew chief name is applied similarly on the right side, centered horizontally over the word FORCE in US AIR FORCE.

T-3 FIREFLY:

Command Insignia. 8-inch full color. Applied to both sides of the vertical stabilizer. Proper placement is the top edge of the insignia 2 1/2 inches below the bottom edge of the tail flash with the aft-most portion of the insignia 1/4 inch forward of the vertical stabilizer and rudder split line.

Unit Insignia. Unit insignias are not authorized on T-3 aircraft.

Aircraft Tail Numbers. 6-inch single-stroke, military block lettering. Applied to both sides of the vertical stabilizer. Proper placement is the top of the tail numbers 2 1/2 inches below the bottom of the unit designator, centered on the tail (vertical stabilizer and rudder combined).

Tail Flash (Stripe). 6-inch high wrapping around the upper portion of the vertical stabilizer. Proper placement is the top of the tail flash 5 inches below the top of the vertical stabilizer. It extends from the leading edge of the vertical stabilizer to the trailing edge of the rudder.

Unit Designator. 10-inch single-stroke, military block lettering. Applied to both sides of the tail. Proper placement is the top of the letters 2 inches below the bottom of the AETC insignia centered horizontally on the tail (vertical stabilizer and rudder combined).

Aircrew and Crew Chief Names. The aircrew and crew chief names are applied to both sides of the fuselage. Proper placement is the top of the letters 1 inch below and centered horizontally on the bottom-most portion of the canopy sill.

T-37 TWEET:

Command Insignia. 8-inch full color. Applied to both sides of the vertical stabilizer. Proper placement is the top of the insignia 2 3/4 inches below the bottom edge of the tail flash, centered on the two-letter unit designator.

Unit Insignia. Unit insignias are not authorized on T-37 aircraft.

Aircraft Tail Numbers. 6-inch single-stroke, military block lettering. Applied to both sides of the vertical stabilizer. Proper placement is the bottom of the first digit 3 1/2 inches above the fuselage, aligned parallel with the ground. In addition, the trailing edge of the last digit will be 1 inch from the vertical stabilizer and rudder split line. They are applied in white, color #17925.

Tail Flash (Stripe). 4-inch high. Wrapping around the upper portion of the vertical stabilizer. Proper placement is the top of the tail flash 1 inch below the vertical stabilizer antenna. It extends from the leading edge of the vertical stabilizer to the trailing edge of the rudder.

Unit Designator. 10-inch single-stroke, military block lettering. Applied to both sides of the vertical stabilizer. Proper placement is 2 3/4 inches below the tip of the command insignia with the aft letter of the

designator touching the vertical stabilizer and rudder split line. It is aligned parallel with the ground. The unit designator is applied in white, color #17925.

Aircrew and Crew Chief Names. The aircrew and crew chief names are applied to both sides of the forward fuselage. Proper placement is centered on the white band below the antiglare shield on the forward electronics bay panels. The aircrew name is applied to the left side with the crew chief name on the right side.

T-38 TALON:

Command Insignia. 12-inch (height), contrasting gray colors, applied to both sides of the vertical stabilizer. Proper placement is the top of the insignia 7 inches below the bottom edge of the tail flash with the center point of the insignia 16 3/8 inches forward of the stabilizer and rudder split line.

Unit Insignia. Unit insignias are not authorized for T-38 aircraft.

Aircraft Tail Numbers. 10-inch single-stroke, military block lettering. Applied to both sides of the vertical stabilizer. Proper placement is the top of the numbers 6 inches below and centered on the unit designator. They are applied in contrasting gray color.

U.S. Air Force. 6-inch, military block lettering, contrasting gray color. It is applied to both sides of the center fuselage. Proper placement is the forward edge of the first letter (for left side, last letter for right) butted against FS 325 seam and parallel to the wing. The bottom edge of the letters should be 5 1/2 inches up from the wing 15% and 44% spars.

National Star Insignia (fuselage). 9-inch, camouflage style cut-out, with no breaks in the lines, contrasting gray color. It is applied to both sides of the aft fuselage. Proper placement is centered vertically on the "U.S. AIR FORCE" with the aft edge of the bar 1-inch forward of the hydraulic reservoir access door hinge.

National Star Insignia (wings). 9-inch, camouflage style cut-out, with no breaks in the lines, contrasting gray color. It is applied to the upper left wing and the lower right wing. Proper placement is the outboard/forward bar edge points 9-inches from the leading edge/wing seam and 1-inch from the wing tip/wing seam. The outboard edge of the bar is parallel with the wing/wing tip seam.

USAF (wings). 6-inch, military block lettering, contrasting gray color. It is applied to the upper right wing and lower left wing. Proper placement is the same as the wing national star insignia.

Tail Flash (Stripe). 10-inch high. Applied to both sides of the vertical stabilizer. Proper placement is the top edge of the tail flash grounded against the vertical fin cap seam. It extends from the leading edge of the vertical stabilizer to the trailing edge.

Unit Designator. 15-inch single-stroke, military block lettering. Applied to both sides of the vertical stabilizer. Proper placement is the top of the letters 23 inches below the bottom edge of the tail flash, centered under the command insignia. All tail markings (unit designator, serial number, etc.) will be applied in contrasting gray color.

Aircrew and Crew Chief Names. Centered on the forward cockpit canopy rails. The pilot name is applied to the left forward canopy rail and the crew chief name is applied to the right forward canopy rail.

Other Aircraft Markings. Battery, grounding, no step, rescue, ejection, data legend, engine fire doors, servicing, and other required markings (those currently mandatory on the current T-38A paint scheme) will be applied in opposite shades of gray, color numbers 16473 or 16081, i.e., if the marking is in the dark

gray areas of the fuselage or empennage, they will be in 16473. Those in the light gray areas will be gray, color number 16081. The pitot tube will be painted dark gray 16081.

T-43:

Command Insignia. 34-inch full color. Applied to both sides of the vertical stabilizer. Proper placement is the top of the insignia 28 inches below the bottom edge of the tail flash with the aft-most portion of the insignia 17 inches forward of the vertical stabilizer and rudder split line.

Unit Insignia. Unit insignias are not authorized on T-43 aircraft.

Aircraft Tail Numbers. 18-inch, single-stroke, military block lettering. Applied to both sides of the vertical stabilizer. Proper placement is the top of the numbers 31 inches below and centered on the unit designator.

Tail Flash (Stripe). 15-inch high. Applied to the upper portion of both sides of the vertical stabilizer. Proper placement is the top edge of the tail flash 33 inches below the vertical stabilizer antenna cap seam. The flash extends from 2 inches aft of the leading edge of the vertical stabilizer to the trailing edge of the rudder.

Unit Designator. 36-inch, single-stroke, military block lettering. Applied to both sides of the vertical stabilizer. Proper placement is the top of the letters even with the top edge of the rudder hinge panel, with the aft-most letter 10 inches forward of the stabilizer and rudder split line.

Aircrew and Crew Chief Names. Applied to the left side of the forward fuselage. Proper placement is immediately below the blue stripe under the pilot's aft-side window, placed directly on the white aircraft background.